

# PATENT COOPERATION TREATY PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>R05089PCT</b>	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. <b>PCT/JP2005/013528</b>	International filing date ( <i>day/month/year</i> ) <b>15.07.2005</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>20.07.2004</b>
Applicant <b>RICOH COMPANY, LTD.</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b.  With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2.  Certain claims were found unsearchable (See Box II).

3.  Unity of invention is lacking (See Box III).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b.  none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP2005/013528

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.<sup>7</sup> H02M3/155, H01M10/44

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.<sup>7</sup> H02M3/155, H01M10/44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan 1922-1996  
 Published unexamined utility model applications of Japan 1971-2005  
 Registered utility model specifications of Japan 1996-2005  
 Published registered utility model applications of Japan 1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2002-325438 A (FUJITSU LIMITED) 08.11.2002, all pages	1-27
Y	JP 2004-173460 A (FUJITSU LIMITED) 17.06.2004, all pages	1-27
Y	JP 2004-21782 A (RICOH COMPANY, LTD.) 22.01.2004, all pages	1-27
Y	JP 10-111371 A (SEIKO EPSON CORPORATION) 28.04.1998, all pages	3, 7, 8, 12, 14, 15, 18, 20, 21, 24, 26, 27
Y	JP 2003-216247 A (RICOH COMPANY, LTD.) 31.07.2003, all pages	9-15

 Further documents are listed in the continuation of Box C. See patent family annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

30.08.2005

Date of mailing of the international search report

13.09.2005

Name and mailing address of the ISA/JP

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP2005/013528

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 6-70544 A(FUJITSU LIMITED) 11.03.1994, all pages	16-21
Y	JP 7-277107 A(HANSHIN ELECTRIC CO., LTD.) 24.10.1995, all pages	22-27

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/JP2005/013528**

JP 2002-325438 A	08.11.2002	None
JP 2004-173460 A	17.06.2004	US <u>2004/0100240 A1</u> 27.05.2004
JP 2004-21782 A	22.01.2004	None
JP 10-111371 A	28.04.1998	None
JP 2003-216247 A	31.07.2003	None
JP 6-70544 A	11.03.1994	None
JP 7-277107 A	24.10.1995	None